PROJECT NUMBER : 2705
PROJECT TITLE : Tomorrow
PROJECT LEADER : R. W. Dwyer
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I. PROJECT TOMORROW

A. **Objective:** Explore the feasibility of controlling the burn rates and puff counts of cigarettes through filler and wrapper modifications.

B. **Status:** One means of reducing cigarette puff count is by reducing the weight of tobacco in the rod. In an effort to quantify the weight reduction which small-lamina material affords, we had cigarettes fabricated from nine different blends of fillers. The base filler was a conventional blend without expanded tobacco or stem. To that we added BBOSL at four levels with a maximum of 32 percent by weight. For comparison, we used the same base filler with varying levels of DIET tobacco. The cigarettes from these blends were made to a common firmness and smoked for puff count and delivery. The results show that BOSL can be used as a direct one-to-one replacement for DIET tobacco, at least up to the 32% level. The weights at firmness, puff counts, and tar deliveries were the same for both the BBOSL and DIET blends at the same addition level.

Additionally, we examined the weight/firmness relationships of four expanded tobaccos. Cigarettes were made with DETA, XTK, BLDET, or BBET as the only filler component. These samples were made to the same firmness, and the BBET cigarettes had significantly lower tobacco weights and puff counts than the other materials. The results suggest that the more burley tobacco in the expanded blend, the greater the weight reduction.

C. **Plans:** At this point, we have found fillers which can be used to reduce the weight of tobacco in cigarettes. We have previously reported the results of studies which show that the type and amount of additives in wrappers can alter the amount of tobacco burned during a puff. Based on the results of these two studies, we plan to design cigarettes at reduced mass burn rates which will provide conventional deliveries and puff counts.